

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in this application.

1. (Currently Amended) A liquid crystal display (LCD) device, comprising:
a substrate having a display region; and
a plurality of spacers formed in the display region,
wherein compression ratios of the spacers gradually increase as advancing from a center to ~~an~~ left and right edges of the display region,
wherein the compression ratio of each spacer is a height reduction of the spacer by compression divided by an original height of the spacer.

2. (Previously Presented) The LCD device of claim 1, further comprising a plurality of pixel electrodes, wherein the spacers are spaced apart from the pixel electrodes.

3. (Previously Presented) The LCD device of claim 1, further comprising a black matrix and a common electrode, wherein the spacers are formed over the black matrix.

4. (Currently Amended) The LCD device of claim 1, wherein the spacers are tapered such that tapered angles of side surfaces of the spacers with respect to the substrate gradually increase as advancing from the center to the edge of the display region, and ~~productions~~ products of upper diameters and lower diameters of the spacers decrease as advancing from the center to the edge of the display region.

5. (Previously Presented) The LCD device of claim 4, wherein a difference between the tapered angles of the spacer disposed at the edge and the spacer disposed at the center is no more than about 40°.

6. (Previously Presented) The LCD device of claim 1, wherein the spacers are tapered, side surfaces of the spacers form a constant tapered angle with respect to the substrate and diameters of the spacers decrease as advancing from the center to the edge of the display region.

7. (Previously Presented) The LCD device of claim 1, wherein a polymer linking density of the spacers decreases as advancing from the center to the edge of the display region.

8. (Previously Presented) The LCD device of claim 1, wherein Young's modulus of the spacers decreases as advancing from the center to the edge of the display region.

9. (Previously Presented) The LCD device of claim 1, wherein the spacer disposed at the center has a compression amount smaller than that of the spacer disposed at the edge by about 0.1 μm.

10. (Previously Presented) The LCD device of claim 1, wherein the spacers satisfy:

$$1 < A_{\text{center}} / A_{\text{edge}} < 1 + 0.1A_{\text{center}},$$

where A_{center} denotes a cross-sectional area of the spacer disposed at the center and A_{edge} denotes a cross-sectional area of the spacer disposed at the edge.

11. (Previously Presented) The LCD device of claim 1, wherein the spacer disposed at the center has a column shape, and the spacers are tapered increasingly as advancing from the center to the edge of the display region.

12. (Previously Presented) The LCD device of claim 11, wherein the spacer at the center has a shape of a cylinder, a rectangular prism or a hexagonal prism.

13. (Previously Presented) The LCD device of claim 12, wherein the spacer at the center is tapered to form a truncated cone shape, a frustum of rectangular pyramid shape, or a frustum of hexagonal pyramid shape.

14. (Currently Amended) A liquid crystal display (LCD), comprising:
a first substrate including a display region;
a second substrate facing the first substrate;
a fence disposed between the first substrate and the second substrate, the fence surrounding the display region to form a space defined by the first and second substrates and the fence;

a liquid crystal layer disposed in the space; and
a plurality of spacers disposed in the space and maintaining a distance between the first and second substrates,

wherein compression ratios of the spacers gradually increase as advancing from a center to ~~an~~ left and right edges of the display region,

wherein the compression ratio of each spacer is a height reduction of the spacer by compression divided by an original height of the spacer.

15. (Previously Presented) The LCD of claim 14, further comprising a plurality of pixel electrodes formed on the first substrate, wherein the spacers are spaced apart from the pixel electrodes.

16. (Previously Presented) The LCD of claim 14, further comprising a black matrix and a common electrode formed on the second substrate, wherein the spacers are formed over the black matrix.

17. (Currently Amended) The LCD of claim 14, wherein the spacers are tapered such that tapered angles of side surfaces of the spacers with respect to either the first substrate or the second substrate gradually increase as advancing from the center to the edge of the display region and ~~productions~~ products of upper diameters and lower diameters of the spacers decrease as advancing from the center to the edge of the display region.

18. (Previously Presented) The LCD of claim 17, wherein a difference between the tapered angles of the spacer disposed at the edge and the spacer disposed at the center is no more than about 40°.

19. (Previously Presented) The LCD of claim 14, wherein the spacers are tapered, side surfaces of the spacers form a constant angle with respect to either the first substrate or the second substrate, and diameters of the spacers decrease as advancing from the center to the edge of the display region.

20. (Previously Presented) The LCD of claim 14, wherein a polymer linking density of the spacers decreases as advancing from the center to the edge of the display region.

21. (Previously Presented) The LCD of claim 14, wherein Young's modulus of the spacers decreases as advancing from the center to the edge of the display region.

22. (Previously Presented) The LCD of claim 14, wherein the spacer disposed at the center has a compression amount smaller than that of the spacer disposed at the edge by about $0.1\mu\text{m}$.

23. (Previously Presented) The LCD of claim 14, wherein the spacers satisfy:

$$1 < A_{\text{center}} / A_{\text{edge}} < 1 + 0.1A_{\text{center}},$$

where A_{center} is a cross-sectional area of the spacer disposed at the center and A_{edge} is a cross-sectional area of the spacer disposed at the edge.

24. (Previously Presented) The LCD of claim 14, wherein the spacer disposed at the center has a column shape, and the spacers are tapered increasingly as advancing from the center to the edge of the display region.

25. (Previously Presented) The LCD of claim 24, wherein the spacer disposed at the center has a cylindrical shape, a rectangular prism shape or a hexagonal prism shape.

26. (Previously Presented) The LCD of claim 25, wherein the spacer disposed at the center is tapered to form a truncated cone shape, a frustum of rectangular pyramid shape or a frustum of hexagonal pyramid shape.

27-52. (Canceled)